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XXVI.

OBSERVATIONS ON A SINGULAR NATURAL PRODUCTION, IN WHICH ONE PART APPEARS TO BE A PLANT AND THE OTHER AN INSECT, ACCOMPANIED WITH A SPECIMEN.

By Rev. MANASSEH CUTLER, LL.D. F. A. A.

"IT often happens that things, which at first view seem miraculous, are found on examination to be not miraculous, but produced in the regular course of nature. This has been lately remarkably demonstrated by the example of a certain insect, which the French collectors call the Vegetating Fly. The story goes, that in America is produced an insect, which, laying aside its animal nature, is transformed by a more than Ovidian metamorphosis, to a vegetable ; so that we are no longer to consider as idle tales the transformation of Daphne to a laurel, or of Narcissus to a flower.

Not long since Capt. Melvil, returning from the island of St. Domingo, brought with him to London some small productions of a mixed nature, whose lower part was a real insect, but the upper part a plant. The insect was equal in magnitude to a bee, and the plant was an inch in length. The collectors of these wonderful productions, who brought them to Mr. Melvil, informed him, that the insect was a species of wasp, which, having lived to a certain period, lost all motion, and was changed in the upper part into a plant, which gradually increased, while the figure and substance of the insect were retained in the lower part.

The admiration of the most sagacious naturalists in England was very much excited by this then unheard of naturæ miraculum. Many doubted both its probability and possibility, and suspected some fraud at the bottom; others were unwilling to admit this suspicion, because something not entirely foreign to this subject had been advanced by the Rev. Father Torrubia in his Natural History of New Spain,* who relates, that in a certain field in the island of Cuba, not far from Havanna, he had found numerous dead wasps, which perfectly retained their form, but from the abdomen there was produced a small plant, furnished with very acute prickles, which was called by the inhabitants *Gia*, and that it grew to the height of some hand breadths. The prickles were supposed by the Spaniards to originate from the sting of the wasp.

The similarity of these productions seemed to favour the opinion of those, who were inclined to believe a real metamorphosis, but on examination by the celebrated Hill (perhaps Sir John), the nature of them was detected, the clouds of mystery dispersed, and the real truth brought to view. He found the insect was a Cicada of that kind, which Aristotle and the ancients called Tettigometra, and that the plant was a fungus of the family of Clavaria, which he called *Clavaria sobolifera*, from its putting forth new shoots from the middle of the stem. Small fungi of this genus are found growing in various animal matters in a state of decay; as for instance that in the hoofs of horses, called thence by Ray, *Fungus e pede equino*. The Cicadæ enter the earth in order to pass from the larva to the winged state. If the season is unfavourable, vast numbers of them perish, and the seeds of Clavaria, finding in the decaying insects a proper soil and nutriment, grow into the state, in which the specimens abovementioned were found. Thus far is the operation of nature; but being seen in an extravagant light, it has been pretended to be a miraculous transformation. It will prove no doubt, that Father Torrubia's wasps from Cuba have passed through the same process, and the growth of a Clavaria from the dead insect will be found no more a miracle than the growth of the misletoe on the bark of trees." These subjects are figured in the last volume of Edwards' birds and in the Nova Acta Nat. Cur. Append. ad Tom. 3. Tab. 7. fig. 12, 13.

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* This work was published in Spanish, Madrid, 1754.

The above is a hasty translation of the eighty eighth paper in the third volume of the Nov. Act. Nat. Cur. and throws great light upon a subject, which, though noticed in Europe half a century since, is very little known among us. In the above paper two species of insects are spoken of, viz. a Vespa and a Cicada. The specimen, which I herewith beg leave to present to the academy, is different from either. The vegetable part seems to be the *Clavaria militaris* of Linnæus, and the animal part is the larva or grub of the *Lucanus Capreolus*, which is commonly known by the name of Dor or Horn-bug, and is the Stag Beetle of New England.

The form of the larva is perfectly preserved, the legs are entire, the rings of the abdomen perfectly well defined, and the lateral stigmata or spiracles are very conspicuous. But it is proper to observe, that the form and cuticle only of the larva are preserved; for the body is completely filled up with a fungous substance of the Clavaria. The ascending stem pierces the head of the larva, where one of the palpi was inserted, and a descending one passes downward from the corresponding point on the other side of the head; but its direction downward may be accidental.

This curious production was discovered some years ago by Samuel Danielson, Esq. of Killingly in Connecticut, who has been so obliging as to favour me with these specimens. They were found on his farm in a grove of oak and walnut wood, in a loamy soil. In digging up the roots of *Aralia nudicaulis*, or Sarsaparilla, he observed, as he imagined, some insects with sticks in their mouths ; so unusual an appearance attracted his attention, and though they appeared to be living animals he found them motionless. He has since found them repeatedly in the same place, but only in the spring. Fig. 12 represents a specimen of this curious production, found at Killingly. Bomare in his Dict. d' Histoire Naturelle, under the article *Mouche vegetante*, observes, that the Clavaria rises from the head, but sometimes from the back of the insect, and in either situation gives at first sight an idea of some identity of the plant and animal. The article in Bomare is worth reading.

It is a fact well known to botanists that fungous plants are chiefly parasitic and that they attach themselves of preference to certain animal or vegetable substances in a state of decay, and it must be recollected, that the Clavaria is such a plant. As this curious production is rare in this country, I have thought it would be proper to take some notice of it. It is true that the boundary between animal and vegetable bodies is very difficult to define. Their natures approach most nearly in the lowest and most imperfect individuals of each, as in the confervæ and some of the vermes ; but a plant of the lowest order, as Clavaria, and an animal so elaborately constructed as an insect, can never be transformed into each other; nature never unites links so immensely distant as these ; and in order to form correct ideas of any natural production, we should ever remember, that

Nunquam per saltus agit natura.

Fig.15.

Fig.12.

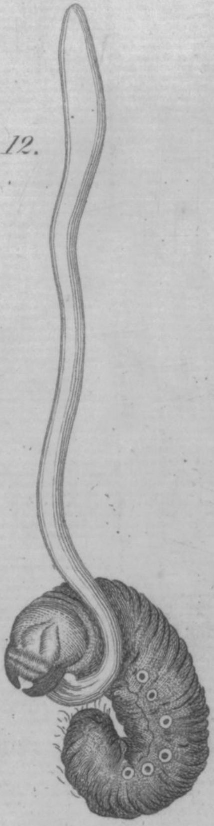

Fig.16.

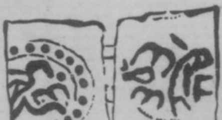

Fig.18.

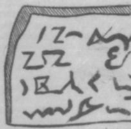

Fig.17.

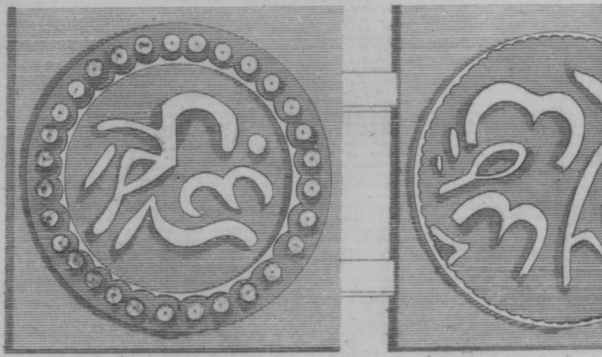

Fig.11.

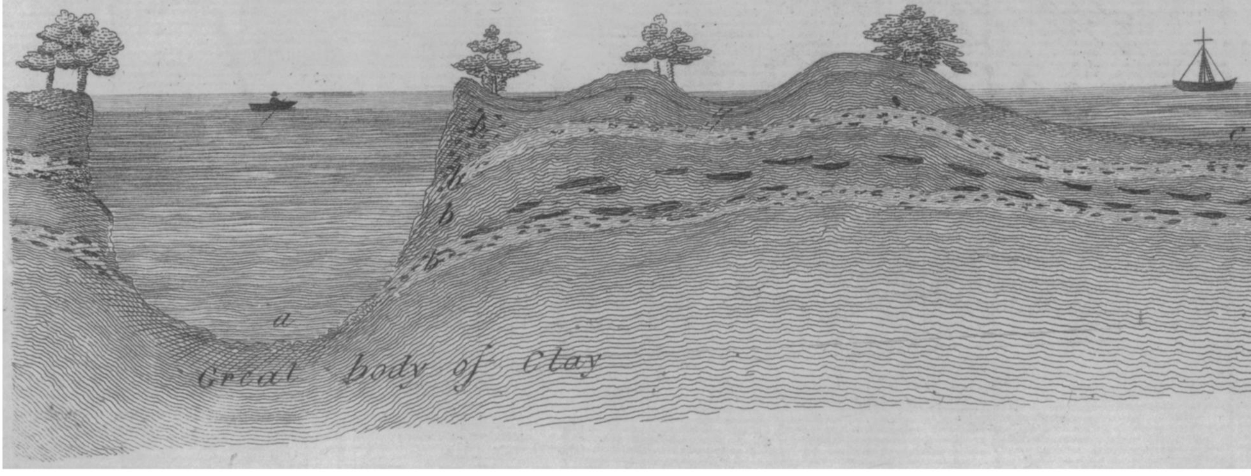

Fig.15.

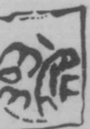

Fig.18.

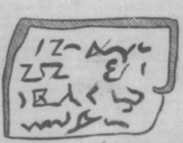

Fig.14.